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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,755	02/06/2004	Jon W. Lai	ATOMP004	4021

51111 7590 02/25/2009  
AKA CHAN LLP  
900 LAFAYETTE STREET  
SUITE 710  
SANTA CLARA, CA 95050

EXAMINER
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KEMMERLE III, RUSSELL J

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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02/25/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-INBOX@AKACHANLAW.COM

<i>Office Action Summary</i>	Application No.	Applicant(s)	
	10/773,755	LAI ET AL.	
	Examiner	Art Unit	
	RUSSELL J. KEMMERLE III	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-25,32-66 and 68-88 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 January 2009 has been entered.

#### *Claim Rejections - 35 USC § 112*

Claims 21-25, 32-66 and 68-88 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear exactly what is intended to be claimed by independent claims 21, 32, 37, 42, 50, 59, 66, 70, 72, 76 and 78. These claims are all method claims, however it is unclear what steps are positively recited as steps to be included in that method. The claims describe how a fluid would flow through the housing, but it is unclear if such a flow is a claim limitation, or an intended use of how a fluid would flow through the housing if it were to be introduced.

The remaining claims are rejected due to their dependence from one of the claims discussed above.

*Claim Rejections - 35 USC § 102*

Claims 21-24, 42-58, 66, 68, 69, 71, 75, 77, 87 and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Beshoory (US Patent 4,763,536).

Beshoory discloses a furnace tube, which includes fluid inlet and outlet means positioned on the same end of the tube (see Fig. 2). Beshoory discloses a tube having a fluid inlet 43 which is connected to a coil portion 45 (i.e., a conduit) which leads to a diffuser 46 where the fluid is released into the tube, generally to interact with a sample placed therein, the fluid is then removed from the tube through a fluid outlet 44 (Col 2 lines 43-47). It should be noted from Fig. 2 that fluid inlet 43 and fluid outlet 44 are both on the same side of the tube.

Beshoory discloses that an input fluid (such as the reaction gas) enter only through the fluid inlet 43 (that is, the first or third opening). Any gas (such as an inert gas) which enters through other holes (such as the apertures 33) is a fluid separate from the input fluid. Further, Beshoory does not require the use of any gas other than the input fluid, and in such cases no fluid would enter the chamber except through fluid inlet 43.

Beshoory further discloses that the apparatus extend to include a balance housing 20 and a bell jar 21 for receiving the balance end (Col 1 line 65 – Col 2 line 2). This entire structure could be considered the equivalent of the “housing” of the current claims, with a second end being the bell jar which would be closed and comprise no openings.

Referring to claim 22, Beshoory further discloses that the fluid flow be a gas flow through the tube (Col 2 lines 43-50).

Referring to claim 24, Beshoory further discloses that the outer tube (i.e., the housing) can be made of quartz or other suitable materials (Col 2 lines 2-5).

Thus, Beshoory discloses, or reasonably suggests, every limitation of claims 21-24, and thus anticipates the claims.

Referring to claim 42, Beshoory appears to disclose that the conduit form an annular ring around the interior portion of the interior chamber and defining portions of the interior chamber (Fig 2).

Referring to claim 50, it appears based on (Fig 2) that the conduit and housing are concentric shapes (that is, they share a common center based on the center of the conduit structure as a whole, not the center of the passage where gas would flow through the conduit).

The limitations of claims 43-49, 51-58, 66, 68-69, 75, 87 and 88 have been addressed above.

Referring to claims 71 and 77, the "bell jar" disclosed by Beshoory is known to those skilled in the art to have a dome shape.

#### *Claim Rejections - 35 USC § 103*

Claims 21-24, 42-58, 66, 68, 69, 71, 75, 77, 87 and 88 are rejected in the alternative under 35 U.S.C. 103(a) as being unpatentable over Beshoory.

Beshoory is relied upon as discussed above. In the alternative, if the entire body of Beshoory (including the balance housing and bell jar) are not considered the

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equivalent to the "housing" of the current invention, it would have been obvious to modify the method of Beshoory to achieve the limitations of the current invention.

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the tube 40 of Beshoory by placing the apertures 33 through the closed web 42 on the same side as the fluid input and output, 43 and 44, leaving the opposing end closed with no holes. One of ordinary skill in the art would recognize that there are only a finite number of places where the sample beam and thermocouple could be inserted in to the tube of Beshoory. Absent a showing of unexpected results, it would have been obvious to try inserting them through openings at either the first or second end.

The limitations of claims 22-24, 42-58, 66, 68, 69, 71, 75, 77, 87 and 88 have been discussed above in the rejection under 35 USC 102(b).

Referring to claim 63, 70, 72, 76, 78, 79 and 84, Beshoory discloses that the tube is undivided from the first to the second end (Fig. 2).

The limitations of claims 64, 65 and 73 have been discussed above in the rejection under 35 USC 102(b).

Referring to claims 74, 80 and 85, Beshoory discloses that the housing be made entirely from quartz (Col 2 line 4-5).

Referring to claims 81-83, quartz is a translucent, crystalline, nonconductive material.

Referring to claims 75 and 86, it appears from Fig 2 that the second opening of Beshoory is closer to the second end than it is to the first end. However, in the

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alternative, it would have been obvious to one of ordinary skill in the art that the second opening could be moved along the length of the housing without having any effect on the operation of the device of Beshoory.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beshoory in view of the admitted prior art.

Beshoory is relied upon as discussed above, but does not discuss what material the coil portion be made of (specifically does not mention that it be quartz), or that the coil portion be quartz welded to the quartz outer tube.

While Beshoory does not specifically disclose a material to be used for the coil portion, he does disclose that many other parts of the assembly are made from quartz including the outer tube (Col 2 lines 2-5) and the diffuser at the end of the coil portion (Col 2 lines 51-52). It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, that the coil portion be made of the same quartz material as the outer tube and the diffuser since that would reduce the amount of different materials in the system, and thus make it easier to ensure that the container is inert to the fluid being introduced and would not react with it.

While Beshoory does not say that the coil portion be attached to the outer tube by quartz welding, as applicant points out, such a process is known in the art as a method of joining two quartz pieces together (applicant's specification, pages 18-19, paragraph 43). It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have used quartz welding to join the quartz coil portion to

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the quartz outer tube as a well known and understood method of attaching two pieces of quartz material.

*Allowable Subject Matter*

The previous indication of allowable claims or allowable subject matter is withdrawn. The Examiner apologizes for this change in position however after further consideration of the claims it was decided that they were not currently in condition for allowance.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RUSSELL J. KEMMERLE III whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/  
Supervisory Patent Examiner, Art  
Unit 1791

/R. J. K./  
Examiner, Art Unit 1791